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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/946,138	10/07/97	ALBRECHT	G 808-2

HM31/1014

STEPHEN C MACEVICZ  
LYNX THERAPEUTICS INC  
3832 BAY CENTER PLACE  
HAYWARD CA 94545

EXAMINER
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TUNG, D

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 10/14/98

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/946,138

Applicant(s)

Albrecht et al.

Examiner

Joyce Tung

Group Art Unit

1634

☒ Responsive to communication(s) filed on Jun 24, 1998

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-29 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-29 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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*Response to Amendment*

1. The 35 U.S.C. 101 double patenting rejection over claims 1-29 in paragraph 2 of paper N0.2 of the Office action mailed Feb. 24, 1998 is withdrawn in light of the amendments of the response filed 6/24/98.
2. The obviousness- type double patenting rejection over claims 1, 2, 6-8 and 11-12 made in paragraph 4 of the Office action is MAINTAINED. The response has been fully considered, but is not found persuasive.

The response argues that the encoded adaptors in the present invention contains an oligonucleotide tag and SEQ ID NO: 10-25, while the probe in the patent '675 do not include oligonucleotide tags. However, the probe in the patent '675 is double stranded nucleic acid segment having a protruding strand at one end and includes a label (see column 5, lines 63-65) to determine a nucleotide sequence of a polynucleotide. The encoded adaptor in the present invention is a double stranded deoxyribonucleic acid comprising an oligonucleotide tag for a labeled tag complement and a protruding strand. Therefore, the structures and function of the encoded adaptor and the probe are same, even the probes do not have specific sequence as the encoded adaptor does. Thus, the rejection is maintained.

3. The obviousness- type double patenting rejection over claims 15-18 made in paragraph 5 of the Office action is MAINTAINED. The response has been fully considered, but is not found persuasive.

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The response argues that neither patent '675 nor patent 097 disclose the use of oligonucleotide tags in the probe that are used in the "identifying" step of the present invention. However, the oligonucleotide tags in the instant application are used in the present invention for sorting in which the sorting steps are the same as the sorting steps in patent '097, the encoded adaptors are functionally and structurally same as the probes used in patent '675. A skilled artisan would have combined these two techniques to increase the sensitivity of nucleic acid sequence determination. Thus the rejection is maintained.

4. The 35 U.S.C. 112 second paragraph rejection over claims 1-29 in paragraph 6 of paper NO.2 of the Office action mailed Feb. 24, 1998 is withdrawn in light of the amendments of the response filed 6/26<sup>4</sup>/98.

5. The 35 U.S.C 103 rejection over claims 1-10, 12-14 and 19-23 made in paragraph 8 of the Office action is MAINTAINED. THE response has been fully considered, but is not found persuasive. For convenience, the rejection is restated below.

The response argues that the examiner must state specifically where in the '675 patent there is a suggestion for a skilled artisan to use encoded adaptors combining with oligonucleotide tags to appreciate a technical problem. However the structure of encoded adaptor is the same as the structure of the probe used in the '675 patent to determine a nucleotide sequence of a polynucleotide. The probe is labeled. The encoded adaptor in the instant application does not have a label. The response indicates that tag complement serve as a label delivering a fluorescent label which has little relevance to the obviousness determination. Therefore, the encoded adaptor needs

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to combine the oligonucleotide tags for a labeled tag complement to carry out the method. Thus a skilled artisan would have used the encoded adaptor in the method of Brenner to determine a nucleic acid sequence because it would have been expected to serve the same purpose as the probe of Brenner. Thus the rejection is maintained.

6. The 35 U.S.C 103 rejection over claims 11 and 15-16 made in paragraph 9 of the Office action is MAINTAINED. THE response has been fully considered, but is not found persuasive.

The response argues that the examiner has not provided any reasons for why one ordinary skilled artisan in the art would be led to combine the elements to arrive at the instant application and the patent '097 does not teach how triplexes might be used. The reasons for one ordinary skilled artisan to combine the elements in the instant application are stated in paragraph 5. The instant application applies oligonucleotide tag to a Hoogsteen triplex for sequence determination. It has nothing to do with how triplexes might be used. Thus the rejection is maintained.

7. The 35 U.S.C 103 rejection over claims 17-18 made in paragraph 10 of the Office action is MAINTAINED. The response has been fully considered, but is not found persuasive.

The response argues that the examiner has not provided any reasons for why one ordinary skilled artisan in the art would be led to combine the elements to arrive at the instant application

The reasons for one ordinary skilled artisan to combine the elements in the instant application are stated in paragraph 5.

8. The 35 U.S.C 103 rejection over claims 24-29 made in paragraph 11 of the Office action is MAINTAINED. THE response has been fully considered, but is not found persuasive.

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The response argues that the '097 patent does not teach the use of oligonucleotide tags in combination with an adaptor. However, claims 24-29 are drawn to a composition comprising a double stranded oligonucleotide adaptor. The structure of the adaptor in the composition claims reads on the structure of probes in the '097 patent and the function of the adaptor does not have patentable weight. Thus the rejection is maintained.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (703) 305-7112. The examiner can normally be reached on Monday-Friday from 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached at (703) 308-1152.

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Any inquiries of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

11. Papers related to this application may be submitted to Group 1800 by facsimile transmission. Papers should be faxed to Group 1634 via the PTO Fax Center located in Crystal Mall 1 using (703) 305-3014 or 305-4242. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Joyce Tung

October 9, 1998



W. Gary Jones  
Supervisory Patent Examiner  
Technology Center 1600

10/13/98